WHAT IS CLAIMED IS:

1. A photoresist with an adjustable polarized light response suitable for use in a photolithography process, the photoresist comprising a photosensitive polymer, wherein:

the photosensitive polymer absorbs an exposure light source to generate an optical reaction in the photolithography process;

the photosensitive polymer is oriented to a specific direction by a physical method; and

the photosensitive polymer has a response to a polarized light, wherein the response varies as an angle between the specific direction and a polarization direction of the polarized light changes.

2. The photoresist according to claim 1, wherein the linear photosensitive polymer includes a linear photosensitive polymer.

3. The photoresist according to claim 2, wherein when a direction of the linear photosensitive polymer is parallel to the polarization direction of the polarized light, the liner photosensitive polymer has a maximum polarized light response, and when the direction of the linear photosensitive polymer is perpendicular to the polarization direction of the polarized light, the liner photosensitive polymer has a minimum polarized light response.

4. The photoresist according to claim 2, wherein the linear photosensitive polymer comprises a photosensitive section and an anti-etching section.

5. The photoresist according to claim 4, wherein the photosensitive section includes a PMDA.

6. The photoresist according to claim 4, wherein the photosensitive section has a molecule weight of 10^2~10^8.

7. The photoresist according to claim 4, wherein the anti-etching section includes ODA.

8. The photoresist according to claim 4, wherein the photosensitive section has a molecule weight as 10^2~10^8.

9. The photoresist according to claim 1, wherein the physical method includes applying an electric field when the photosensitive polymer has electric dipoles.

10. The photoresist according to claim 9, wherein applying an electric field includes using a plasma.

11. The photoresist according to claim 9, wherein applying an electric field includes using a polarized ultra-violet light.

12. The photoresist according to claim 9, wherein applying an electric field includes using a microwave.

13. The photoresist according to claim 1, wherein the physical method includes applying a magnetic field when the photosensitive polymer has magnetic dipoles.

14. The photoresist according to claim 9, wherein applying a magnetic field includes using a plasma.

15. A photolithography process applying to a substrate, comprising:

providing a photoresist layer that includes a photosensitive polymer, which absorbs an exposure light source to generate an optical reaction, and is oriented to a specific direction by a physical method, a specific direction being variable as an angle between the specific direction and a polarization direction of a polarized light changes;

providing the exposure light source with a P-polarized light and an S-polarized light perpendicular to each other, the P-polarized light having a transmission coefficient larger than that of the S-polarized light;

forming the photoresist layer on the substrate of which the specific direction of the photosensitive polymer has a response to the P-polarized light smaller than a response to the S-polarized light to compensate for the difference of transmission coefficients, such that the optical reaction amount of the P-polarized light is about the same of the optical reaction amount;

using the exposure light source and a photomask to expose the photoresist layer; and

developing the photoresist layer.

16. The photolithography process according to claim 15, wherein the

photosensitive polymer comprises a linear photosensitive polymer.

17. The photolithography process according to claim 16, wherein when a direction of the linear photosensitive polymer is parallel to the polarization direction of the polarized light, the liner photosensitive polymer has a maximum response to the polarized light, and when the direction of the linear photosensitive polymer is perpendicular to the polarization direction of the polarized light, the liner photosensitive polymer has a minimum response to the polarized light.

18. The photolithography process according to claim 16, wherein the linear photosensitive polymer comprises a photosensitive section and an anti-etching section.

19. The photolithography process according to claim 18, wherein the photosensitive section includes a PMDA.

20. The photolithography process according to claim 18, wherein the photosensitive section has a molecule weight as10^2~10^8.

21. The photolithography process according to claim 18, wherein the anti-etching section includes ODA.

22. The photolithography process according to claim 18, wherein the photosensitive section has a molecule weight as10^2~10^8.

23. The photolithography process according to claim 15, wherein the physical method includes applying an electric field when the photosensitive polymer has electric dipoles.

24. The photolithography process according to claim 23, wherein applying an electric field includes using a plasma.

25. The photoresist according to claim 23, wherein applying an electric field includes using a polarized ultra-violet light.

26. The photoresist according to claim 23, wherein applying an electric field includes using a microwave.

27. The photolithography process according to claim 15, wherein the physical method includes applying a magnetic field when the photosensitive polymer has magnetic dipoles.

28. The photolithography process according to claim 27, wherein applying a magnetic field includes using a plasma.

29. The photolithography process according to claim 15, wherein forming the photoresist layer on the substrate includes a step of spin coating.

30. The photolithography process according to claim 15, wherein forming the

photoresist layer on the substrate includes vapor deposition.